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Larnyce Tabron

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Self-Driving Car Services Aim to Expand Despite Recurring Mishaps

ices until officials gain a better understanding of the technology and its limitations. The letters were reported earlier by NBC News.

After operating limited services in San Francisco for several months, both companies have requested permission from the California Public Utilities Commission to charge money for driverless rides across the city and around the clock. But until the services are better understood, the city said, it does not want them operating in downtown San Francisco or during peak commuting times in the morning or evening.

"If the commission approves sweeping authorizations for both Waymo and Cruise, the hazards and network impacts caused by planned and unplanned A.V. stops that obstruct traffic could soon affect a large percentage of all San Francisco travelers," one of the letters said.

Both Cruise and Waymo said these letters were an expected part of their efforts to expand services in the city. "We have long appreciated a healthy dialogue with city officials and government agencies in California," said Katherine Barna, a Waymo spokeswoman.

The City of San Francisco declined to comment beyond what it said in its letters. "We welcome any suggestions on safety," said a Cruise spokesman, Aaron McLear.

The letters were the latest in back-and-forth talks among the companies, San Francisco officials and regulators.

Last year, Cruise began offering paid rides in driverless cars in certain parts of San Francisco between 10 p.m. and 5:30 a.m. And Waymo is now offering unpaid rides without drivers. But both companies still need regulatory approval before expanding commercial services without drivers across San Francisco. Waymo began offering paid rides in downtown Phoenix at the end of the year.

In August, Cruise asked the National Highway Traffic Safety Administration, the top federal regulator, to approve widespread tests of a new version of its self-driving car called Origin, which does not include a driver seat or a steering wheel. But San Francisco officials have expressed concern over this plan, too.

The plan, which could put as many as 5,000 of the new vehicles on the streets within two years, makes Cruise's past issues "far more consequential," the city said.

A Waymo autonomous vehicle. Waymo has asked regulators to allow an expansion of its self-driving car service in San Francisco. Right, a Cruise driverless car. Last year, Cruise began offering paid rides in driverless cars in parts of San Francisco between 10 p.m. and 5:30 a.m.

JUSTIN SULLIVAN/GETTY IMAGES

If the company does not significantly improve performance of its technologies, it "could quickly exhaust emergency response resources and could undermine public confidence in all automated driving technology."

The autonomous cars can watch for pedestrians, change lanes and make right-hand turns. But they may struggle to deal with more complicated or unusual situations, like unprotected left-hand turns and broken traffic lights that engineers call "edge cases," because they do not happen as frequently as other scenarios.

"Sometimes these cars just need a human to help them out of a tough spot," said Phil Koopman, an engineering professor at Carnegie Mellon University who specializes in autonomous vehicles.

Waymo has operated a driverless service in suburban Arizona since the end of 2020. But that is very different from a congested city.

"If you get disabled on a quiet suburban street, you are not in anyone's way," said Matt Wansley, a professor at the Cardozo School of Law in New York who specializes in emerging automotive technologies. "If you're in the city, it's a big deal."

The Waymo car that blocked traffic in San Francisco last week entered a very complex and busy intersection "due to temporary road closures that precluded use of the intended route," Waymo said.

When a car cannot navigate a situation on its own, remote technicians can send the car additional information that can help it get going again. And if that does not work, the company must send a crew to retrieve the car.

At the end of June, Cruise caused a similar traffic jam in San Francisco. The company had trouble communicating with many of the cars in its fleet, and as they stalled in one area of the city, all lined up in a row, they clogged traffic until technicians arrived

and got them moving again.

In September, five stalled Cruise vehicles blocked the path of city bus, delaying its 45 riders for at least 13 minutes. Its cars have also interfered with firefighting efforts in the city, according to the letter from San Francisco officials. One car obstructed a fire truck on its way to a fire. Firefighters shattered another car's window in an effort to prevent it from driving over their fire hoses.

Cruise cars have not caused life-

JASON HENRY FOR THE NEW YORK TIMES

threatening injuries or fatalities.

In the wake of such incidents, NHTSA, the federal regulator, recently opened an investigation into the company's cars. The agency is concerned that the vehicles "may strand vehicle passengers in unsafe locations, such as lanes of travel or intersections, and become an unexpected obstacle to other road users."

Cruise has repeatedly said it is working to prevent issues. But an independent review of the soft-

ware systems that manage Cruise's fleet indicated that these software systems were not suited to the kind of widespread services that Cruise hopes to operate.

This review, which was completed last summer and was recently obtained by The New York Times, examined the systems that allow the company to communicate with its vehicles and provide remote assistance when the cars cannot solve problems on their own.

"Core fleet systems have significant stability, responsiveness and scaling challenges which now present fundamental problems for the company," the review said.

Conducted by consultants from IBM, the review said the systems, designed as a way of managing a small fleet of cars that included safety drivers, were not suited to a large fleet where the drivers had been removed.

"Further scaling with current platform will potentially compound existing issues," the review said. "Ability to simultaneously enhance the current platform while stabilizing it is in question."

A new system would require an additional $10 million to $20 million investment and most likely not be completed until the end of this year, according to the review. That is a relatively small expenditure considering the company spent more than $860 million on the development of its technology in the first half of last year.

Mr. McLear, the Cruise spokesman, said the company had fixed or addressed nearly every issue discussed in the review. "It is an outdated report," he said.

Even if Cruise redesigns and rebuilds its management software, there will be times when the company must send a crew to retrieve cars if they get stuck. The same is true of Waymo, a company spokeswoman, Julia Ilina, said. The companies must also send technicians when the cars break down in more traditional ways, such as a flat tire or a traffic accident.

Because of these limitations — and the hundreds of millions of dollars the companies are pouring into research and development — it is unclear how services will become viable businesses.

"The question is: Does this make sense economically?" said Dr. Koopman, of Carnegie Mellon. "They are taking the drivers out of the front of the car. But if they have just as many people in a building waiting for the cars to break, they haven't really solved anything."

Updated ChatGPT Will Cost $20 a Month

By CADE METZ

SAN FRANCISCO — In November, OpenAI wowed the world when it released an experimental online chatbot called ChatGPT that could answer questions, write poetry and riff on almost any topic tossed its way.

Now, the tiny San Francisco start-up has announced that it will soon offer a commercial version of the chatbot, ChatGPT Plus, for $20 a month.

Subscribers will receive round-the-clock access to the chatbot, faster responses and access to new features, OpenAI said. The company will continue to offer a free version of the service, which is available to only a limited number of people during peak hours.

ChatGPT is the most prominent example of a new kind of chatbot that has captured the imagination of both the business world and the general public in recent weeks. Google, Meta and various start-ups have built similar systems that are only just beginning to emerge on the internet.

The result of more than a decade of research, these chatbots represent a sea change in the way the computer software is built and used. They are poised to reinvent

IRYNA KHABLIUK/ALAMY

ChatGPT has captured the imagination of both the business world and the general public.

internet search engines like Google Search and Bing, talking digital assistants like Alexa and Siri, and email programs like Gmail and Outlook.

They can also generate digital text that can be repurposed in almost any context. Students are already using ChatGPT to write term papers. Companies are generating email messages and other

marketing materials.

But the technology comes with caveats. Because the capabilities of these chatbots are created by analyzing vast amounts of digital text posted to the internet, they cannot distinguish between fact and fiction and can produce text that is biased against women and people of color.

Initially, ChatGPT Plus will be available only to users in the United States. OpenAI has started a waiting list for the service and will begin inviting people on the list to join in the coming weeks.

The company said it would soon expand the service to other countries.

Chatbots like ChatGPT are unusually expensive to operate. In a recent tweet, Sam Altman, OpenAI's chief executive, said the company spent "single-digit cents" serving up each chat on the service. That can quickly add up, considering that more than a million people used ChatGPT in the first few days after its release.

The new subscription service is designed to make some of this money back while the company continues to offer a free version of the chatbot, said Hannah Wong-Silva, a spokeswoman for OpenAI.

U.S. Survey Shows Uptick in Job Openings

By LYDIA DePILLIS

The nation's demand for labor only got stronger in December, the Labor Department reported on Wednesday, as job openings rose to 11 million.

That brings the number of posted jobs per available unemployed worker, which had been easing in recent months, back up to 1.9 — not what the Federal Reserve has been hoping for as it seeks to quell inflation.

"It does make you question whether we continue to see that slowing in net job creation," said Kathy Bostjancic, chief economist at the financial services company Nationwide. "There's still a strong demand for workers, and that suggests that the labor market is still running very tight, and too hot."

The 5.5 percent increase in job openings was largely driven by hotels and restaurants, which

The 5.5% increase was driven by hotels and restaurants.

have been steadily recovering from the pandemic, and jumped sharply to 1.74 million positions posted. Jerome H. Powell, the Fed chair, has been particularly focused on wage inflation in the services sector, but like wages more broadly, increases in hourly earnings in private services have been decelerating.

In another sign of confidence among workers, people voluntarily left their jobs at about the same rate as they did in November. Quits as a share of the overall employment base have fallen slightly from 3 percent at the end of 2021,

but plateaued over the past few months. Overall, in 2022, about 50 million Americans quit their jobs.

Layoffs were also steady in December, staying at the unusually low level that has prevailed since a spike during the pandemic. While pink slips in the tech industry have mounted swiftly — most recently with 22,000 between Microsoft and Google — the bulk of the separations may have occurred after the labor turnover survey ended.

Other indicators that employers are shedding workers, such as initial claims for unemployment insurance, have also remained very low by historical standards. Those leaving tech jobs, especially with software development and engineering skills, may have found new opportunities so quickly that they didn't file for unemployment benefits.